



The Raleigh Amateur Radio Society's **EXCITER**

GET INVOLVED

- RARS General Membership meeting: Second Tuesday of the month.
- The RARS net meets every night except Saturday @ 8 p.m. on 146.640.
- The RARS Technical & Trader's net: Saturdays @ 8:00 PM on 146.64.
- RARS meets for a monthly dinner on the First Tuesday of each month.



PUBLIC SERVICE EVENTS

Interested in helping? Visit
<http://www.rars.org/public-service.php>

frequently for our 2017
ham public service
schedule.

RARS General Meeting

Topic: Show and Tell.

Date: August 8, 2017

Time: Meeting at 7:30PM

Informal gathering and refreshments from 7 - 7:30 p.m.

Where: Ridge Road Baptist Church. 2011 Ridge Rd., Raleigh

New HAM / Elmer meeting, 6:00 p.m. before member meeting

Tadd Torborg, KA2DEW, Elmer Coordinator

[Click here for more information.](#)

President's Message RARS President's Message

August 2017

The dog days of summer are here. This is not a good time for outdoor antenna or tower work. (I am speaking from experience here). I hope everyone is enjoying vacation season. Many members have spoken of trips both here and abroad. Hopefully some ham radio activity is working its way into those trips.

If you or anyone you know is thinking of getting a new or upgraded ham license, RARS is offering a VE test session next Tuesday prior to the club meeting. Testing begins at 5:30 pm and is generally over before the meeting starts.

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RARS Officers

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The Raleigh Amateur Radio Society

The Raleigh Amateur Radio Society, Inc. (RARS) was founded in 1969 and continues to serve and support the amateur radio community in the greater Triangle area. In 1999, the society incorporated a new RARS and obtained 501(c)(3) non-profit tax status.

The objectives of the club are to promote worldwide friendship through amateur radio; to be of public service by providing radio communications in times of disaster, emergency, or civic needs; to educate members in radio technique, and to provide training classes to assist in obtaining amateur radio licenses.

Anyone interested in amateur radio is eligible to apply for membership. Dues for regular licensed amateurs are \$18 per year (from July 1 through June 30). Additional immediate family members pay \$5 each per year. Dues for licensed amateurs older than 59 or younger than 16 are \$12 per year. Dues for non-licensed associate members are \$9 per year. Applications for membership may be obtained from the treasurer or on the RARS website (www.rars.org).

Exciter

The Exciter is the official newsletter of the Raleigh Amateur Radio Society. It appears each month as a PDF on the RARS website at www.rars.org. Members receive email notification when the latest version is available. Please provide your email address to the Treasurer.

The Exciter welcomes articles, advertisements, and other contributions. To submit a piece to the newsletter, please contact the Editor. The Editor reserves the right to edit any and all pieces. The submission deadline for each month's Exciter is the third Friday of the preceding month. All submissions must be final. Drafts are not accepted.

The views expressed in the Exciter are those of the individual authors and do not necessarily reflect the views of the Editor or RARS.

Tom Lewis, N4TL, editor (editor@rars.org)

For Your Information

RARS General Meeting

Date: **Second** Tuesday of each month

Location: Ridge Road Baptist Church 2011
Ridge Road Raleigh, NC, 27607

Time: People begin arriving at 7 p.m. The meeting officially begins at 7:30 p.m.

RARS Monthly Dinner

All members and guests are welcome to the monthly (first Tuesday) RARS Supper, 6:30PM, at the Golden Corral Restaurant, 6129 Glenwood Ave., Raleigh. Informal and Dutch, just bring your appetite and best rag to chew. 73, Chuck, K4HF

RARS Repeaters in Raleigh

146.640 and 444.525

Join us for the nightly RARS net at 8 p.m. on the 146.640 repeater. All hams holding a Technician class license or higher are invited to check in. We welcome both RARS and non-RARS members to the net.

There is a net Listing on the RARS website click here. <http://www.rars.org/nets.php>

VE Testing

The RARS VEs will accept walk-in testing in February, May, August and November at 5:30PM, prior to RARS membership meetings at Ridge Road Baptist Church; the RARSfest in April; the Cary Swapfest in July; the JARS-Fest in November; and following RARS license classes. Please bring a photo ID, your original and a copy of your current license, your \$14 exam fee, and any valid CSCEs that prove passing elements beyond that of your current license. Visit www.rars.org for more information.

President's Message continued

Now's a good time to brush up on those exams and take the next step in your ham career.

Don't forget that elections are coming up in a couple of months. Several officer positions as well as board member positions are up for election this year. If you are looking a way to give more to your club and have more of a voice in club activity, please step forward and offer to fill one of those positions.

It will soon be back-to-school time. Please be aware of an increase in buses on the roads and children on the sidewalks and keep their safety in mind.

73, Dennis NC4DK



New RARS Members

John Gouveia	KN4EQO
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One new member from last month received his call.

Jonathan Chandler	KN4EVA
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Solar Eclipse

On Aug. 21, 2017, people across the United States will see the sun disappear behind the moon, [turning daylight into twilight](#), [causing the temperature drop rapidly](#) and revealing massive streamers of light streaking through the sky around the silhouette of the moon. On that day, America will fall under the [path of a total solar eclipse](#) .

The so-called Great American Total Solar Eclipse will [darken skies all the way from Oregon to South Carolina](#), along a stretch of land about 70 miles (113 kilometers) wide. People who descend upon this "[path of totality](#)" for the big event are in for an unforgettable experience.

Here is Space.com's complete guide to the 2017 total solar eclipse. It includes information about [where and when to see it](#), [how long it lasts](#), [what you can expect to see](#), and [how to plan ahead](#) to ensure you get the most out of this incredible experience.

[www.space.com/33797-total-solar-eclipse-2017-](http://www.space.com/33797-total-solar-eclipse-2017-guide.html)

RARS August Birthdays

Lee	AK4XZ	08/05
Hertz	KN4CUZ	08/10
Andy	AA9P	08/10
Manny	K4KBM	08/14
Paul	AE4MN	08/15
Christopher	KM4RNC	08/15
Jake	KM4TCH	08/16
Bernard	W4BRB	08/17
David	W4EIP	08/18
Mike	KM4BJV	08/18
Bonnie	KK4OAK	08/19
Chuck	W3WZN	08/19
Al	KE4IHX	08/20
Tom	KM4RMR	08/20
Red	AC4QX	08/21
Mike	KN4DRN	08/21
Mirl	W4WMA	08/22
Barry	KD4WTI	08/22
Cliff	KK4MPA	08/22
Daniel	KW4TI	08/24
John	KG4AKV	08/25
Peter	KJ4MDY	08/25
Eric	KM4TXV	08/29
Mike	KK4ETS	08/30
Mike	KM4ZXH	08/30
Dan	KD4AGQ	08/31
Sarah	KJ4WZD	08/31

[guide.html](#)

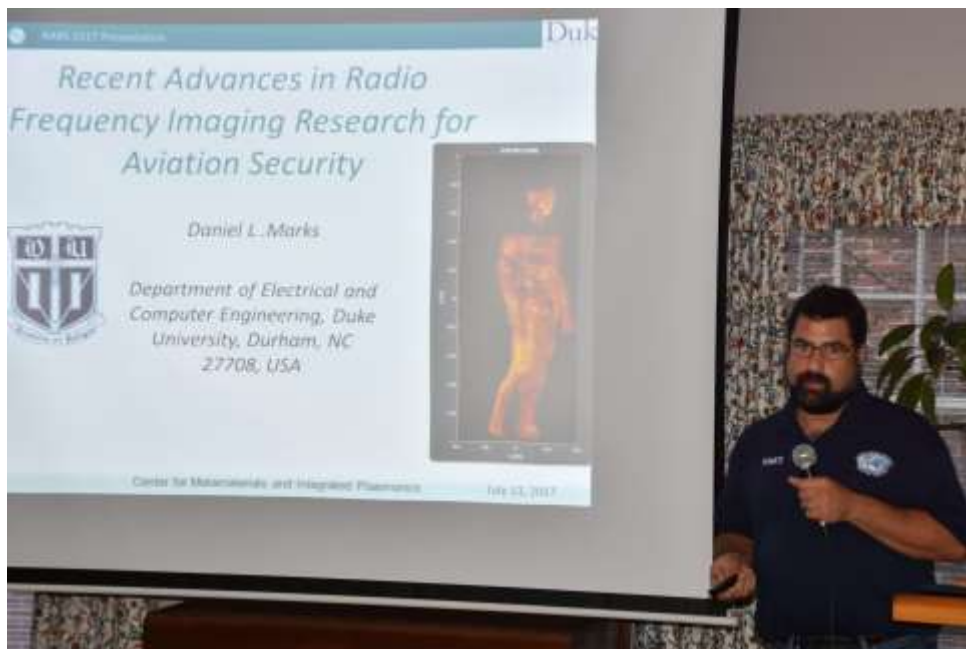
<https://eclipse2017.nasa.gov/safety>

RARS Meeting Door Prize Winners



Dennis WZ0Q, Charles WA3UTC, Charlie WB4DCM, Israel NC4IP, and Dan KW4TI

June 13, 2017 RARS meeting Presentation



Dan KW4TI, gave a presentation on Recent Advances in Radio Frequency Imaging Research for Aviation Security.

RARS 2017 Field Day Pictures



Carl Davis, W8WZ, giving the Field Day educational class on "Message Handling and the National Traffic System"



Dave Thomas, K4SAN, on VHF, and Jim Jordan, K4QPL, in the background on CW.

73 Marty / W4MY

Future Hamfests

A full list of Hamfests can be found at the [ARRL website](#).

08/05/2017 | 20th Annual Catawba Valley Hamfest

Location: Morganton, NC

Type: ARRL Hamfest

Sponsor: McDowell Amateur Radio Association

Website: <http://www.cvhamfest.com>

08/12/2017 | [19th Annual Cape Fear Amateur Radio Society Swapfest](#)

Location: Fayetteville, NC

Type: ARRL Hamfest

Sponsor: Cape Fear Amateur Radio Society

Website: <http://www.cfarsnc.org>

09/01/2017 | [North Carolina State Convention](#)

Location: Shelby, NC

Type: ARRL Convention

Sponsor: Shelby Amateur Radio Club

Website: <http://www.shelbyhamfest.org>

09/09/2017 | Virginia Section Convention (Virginia Beach Hamfest)

Location: Virginia Beach, VA

Type: ARRL Convention

Sponsor: Tidewater Radio Conventions

Website: <http://viriniabeachhamfest.com>

*New HAM / Elmer meeting, 6:00 p.m. before the
member meeting*

Tadd Torborg, KA2DEW, Elmer Coordinator

*The New Hams meeting is held every month before the regular
RARS meeting. We'll try to start by 6pm. We try to address topics
in a manner that will be of help to hams in their first year of oper-
ation.*

*Tadd / KA2DEW
tadd@mac.com
Raleigh NC FM05pv*

June New HAM / Elmer meeting



In June we made PowerPole cables. In addition to a couple of radios and power distribution sets, Tadd brought two sets of crimpers, bags of powerpole parts and a couple of spools of wire. Fin also brought powerpole connected equipment and another set of tools.

Everybody at the meeting brought home a power-pole extension/jumper cord.

73 Tadd, KA2DEW

July New HAM / Elmer meeting



After a short question and answer session we went outside to look at mobile radio installations. Tadd had magnet mount, trunk-lip mount and through-hole NMO antenna mounts with both NMO and UHF antenna sockets. Also had a collection of mobile radios including commercial, ham monobanders, and multi band control head radios.

Many questions, lots of looking, some mechanical foolery. We looked at how the power was connected to the battery and routed through and around the firewall.

New hams included Mike, KN4DRN, Megan KN4DRM, Al N4EII, Joe KM4WRQ, Robert K4WWR, Tara KM4ZSZ, Bob, AK4TT and Dick AA1DG.

We also had a dozen or more long-term hams, some of who joined us just because we were dominating the parking lot!

Photos by NC4FG

73 Tadd, KA2DEW

Interesting websites

California Highway Patrol Radio

This website has information on many different early mobile radios used by the police.

<http://www.wb6nvh.com/index.htm>

Chasing Grid Squares on Six meter?

Check out WG7J's Grid Mapper. The program will read an ADIF file. Then it will show you on a map the grids you have worked and confirmed.

<http://wg7j.reinalda.net/gridmapper/gridmapper.php>

Do you know what your grid square is?

Find out at this website.

http://www.levinecentral.com/ham/grid_square.php

Future RARS 2017 Meeting Topics

Titles, topics, and speakers subject to change.

8/8/2017	Show and Tell. Bring something of interest in Ham Radio that you would like to show off. Be prepared to talk about it. The time will be limited so everyone can have time to show their item.	Members for Show and Tell
9/12/2017	Bring'em back from the dead. Old radio restoration	Charles A. Davis Sr. WA3UTC
10/10/2017	RARS Officers nominations RARS Auction	Election committee & TBD
11/14/2017	RARS Officers election and digital mode WSPR WSPR (pronounced "whisper") stands for "Weak Signal Propagation Reporter."	Election committee & Tom McKee, K4ZAD
12/12/2017	RARS pot luck Holiday party. Sign up at the RARS website. RARS Officers induction.	Election committee

Become an Amateur Radio Operator



The Raleigh Amateur Radio Society is offering Technician Level

Amateur Radio Licensing Classes

at the

Wake Tech Beltline Education Center located at 3200 Bush St, Raleigh, NC 27609 in room 404D.

The course will consist of four 5 hour classes and is designed to teach all of the information that is needed to earn the Technician Level Amateur Radio License and begin enjoying the hobby of ham radio.

Class Schedule:

Saturday, SEPT 16	8:00 AM - 1:00 PM
Saturday, SEPT 23	8:00 AM - 1:00 PM
Saturday, SEPT 30	No Class
Saturday, OCT 7	8:00 AM - 1:00 PM
Saturday, OCT 14	8:00 AM - 4:00 PM
(test administered 1:30 – 4:00 PM on OCT 14)	

Capacity is limited to 20 students and registration is required. Due to limited seating no walk-ins will be accepted. Students under age 12 must be accompanied by an adult.

Students must come with the textbook ARRL Ham Radio License Manual 3rd Edition

ISBN: 978-1-62595-013-0 which can be purchased at this link:

<http://www.arrl.org/ham-radio-license-manual>

The non-refundable cost for the course is \$10 payable in cash at the first session. For students over age 18 there is an additional fee of \$14 for the license test payable on the day of the exam.

The instructor is Mr. Curt Phillips whose amateur call sign is W4CP. Curt has been licensed for more than 40 years, holds an Amateur Extra class license, and has many years of experience teaching amateur radio classes. He has taught technical courses at several area community colleges and for the NC State University Industrial Extension Service, NC A&T's Center for Energy Research and Technology as well as UNC-Charlotte and Virginia Tech.

To ask questions or register for the class please e-mail RARS Education Director Carl Davis at w8wz@aol.com

Minutes

Raleigh Amateur Radio Society
Board of Directors Meeting
June 20, 2017

These minutes will be published after they are approved at a board meeting.

MINUTES

Raleigh Amateur Radio Society
General Membership Meeting
July 11, 2017

The monthly membership meeting of the Raleigh Amateur Radio Society met at the Ridge Road Baptist Church in Raleigh. The meeting was called to order by President Dennis, NC4DK, at 7:30 p.m.

The Pledge of Allegiance to the Flag was said.

[Thanks to Dennis Keith, NC4DK for the donation of the American flag.] *

Alan AB4OZ reminded those present not to make on-air announcements of their vacations before-the-fact as one never knows who is listening. He also reminded the membership of the Cary Swapfest which will be Saturday morning.

Ken KI4OTO will have a generator workshop for any who have generator problems. Contact Ken at 919-270-8773.

There were 39 members present, which constituted a quorum.

Continuing Announcements:

The RARS Dinner takes place monthly on the first Tuesday (next: August 1st) at 6:30 p.m., at the Golden Corral, 6129 Glenwood Ave.

The RARS Board meeting takes place monthly on the third Tuesday (next: July 18th) at 7:00 p.m. in a conference room here at the Church. Members are invited to attend.

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An After-meeting gathering takes place after each Membership meeting, at Applebee's, at Hillsborough and Gorman Streets.

A New Ham/Elmers meeting with new hams and anyone interested takes place before each membership meeting, at 6:00 p.m. at the church.

Guests: Dennis NC4DK introduced guests Steve Hall and Richard Wescott (calls pending), and returning member Israel NC4IP.

A quorum being present, a motion to accept the minutes of the June 13, 2017 meeting, as published in the Exciter, was made, seconded and approved.

Officers' Reports:

Vice President: Tom N4TL – Next month's program will be show and tell. Bring something of interest to ham radio. You can see all remaining 2017 program subjects in The Exciter.

Treasurer: Greg, KE4PAX (not present), submitted a Treasurer's Report (attached to file) which shows 273 members this month. Anyone desiring additional treasury information may contact Greg for details. In Greg's absence Marty W4MY collected dues.

Secretary: Bob NC1X- No report

Board & Committee Reports:

Education Director (Carl W8WZ): A General class will begin Saturday July 15, at the Wake Tech campus, and there will be a new Technician class in the fall. Contact Carl at w8wz@aol.com.

Public Service (John K3RHJ): We have many events and need volunteers. There's a new method of signing up for the "Bike MS: Historic New Bern" event. See the RARS website. The Public Service calendar is at www.rars.org/public-service.php.

Field Day (Marty W4MY): Field day will be June 23rd and 24th, 2018. Marty reviewed this year's results with a video by Bob, W4TTX. Our claimed Score was 9726 points.

RARSfest (Ian N0IAN): RARSfest will be on Easter weekend next year (March 31, 2018).

NC QSO Party (Marty W4MY): The next NC QSO Party will be on the last weekend in February, 2018.

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At-large Directors: no reports

Old Business: none

New Business: none

Prize drawing – Prizes were won by Charles WA3UTC, Charlie WB4DCM, Dennis WZ0Q, Israel NC4IP, and Dan KW4TI

Program: Tom N4TL introduced Dan KW4TI, who gave a presentation on Recent Advances in Radio Frequency Imaging Research for Aviation Security. Dan is working on the next generation of airport security equipment. Current scanners are too big and slow. The goal is a millimeter wave imaging system that detects threats in real time as people move thru them at walking speed. The solution envisions multiple stationary antenna arrays and massively paralleled processor hardware as in graphics processors.

The meeting was adjourned by President Dennis at 9:04 p.m.

Respectfully Submitted,
Robert E Chapman, NC1X
RARS Secretary

* Brackets [] are used to enclose material added by someone other than the secretary.

A reminder:

ARRL PRESIDENT ISSUES CALL FOR MEMBERS TO REACH OUT TO THEIR SENATORS TO SUPPORT S1534 – ARRL President Rick Roderick, K5UR, is calling on League members to urge their US Senators to support the Amateur Radio Parity Act of 2017, S. 1534. ARRL has opened a Rally Congress page to simplify the task. For further information, see <http://www.arrl.org/news/arrl-president-issues-call-for-members-to-reach-out-to-their-senators-to-support-s-1534>

(source: ARRL website)

Copied from Karl Bowman's ARRL Newsletter. Used with permission.

Current Public Service Opportunities

To volunteer for a Public Service event please sign up at this location <http://www.rars.org/public-service.php>

The Ham Public Service Net The HPS Net is on vacation, we will resume when the 2017 PS season begins. We will use the following repeaters in the Carolina 440 Link System:

441.725(+)(100) – Raleigh, NC Hub
443.450 (+)(100) – Cane Mt., Snow Camp, NC
444.325 (+)(100) – Holly Springs, NC
444.375 (+)(100) - Henderson, NC
444.550 (+)(100) – Coats, NC
444.775 (+)(100 – Cary, NC
444.875 (+)(100) – Wendell, NC
145.330 (-)(100) – Goldsboro, NC
442.250 (+)(107.2) - McCain/Southern Pines, NC
444.200 (+)(179.9) - Johnsonville, NC
444.025 (+)(100) - Benson, NC
442.425 (+)(100) - Buxton, NC

(The net is also accessible through IRLP Reflector 9210)

The Ham Public Service Yahoo Group link is: [Ham Public Service North Carolina](#)

WELCOME TO THE 2017 HAM PUBLIC SERVICE EVENT SIGNUP PAGE. Choose the event(s) for which you would like to volunteer and complete the sign-up form at the top of the page... note... one form for EACH event that you are volunteering. We are glad you are back. Sign up at this location <http://www.rars.org/public-service.php>

2017 BikeFest

August 12, 2017 - Saturday - Hillsborough, NC

This event has 35, 62 and 100 mile routes and the proceeds benefit various Bicycling related charities. SAGS and Rest Stop Hams are needed.

* Location: 106 Margaret Lane, Hillsboro (near the Orange County Court House), NC 27278

* Ham Coordinator: John Stone (K3RHJ)

* Website: [BikeFest](#)

Current Public Service Opportunities continued

2017 Five-O Memorial Bike Ride

August 20, 2017 - Sunday - Raleigh, NC

This event has 32 and 65 mile courses and benefits the Raleigh Police Memorial Foundation. SAGS and Rest Stop Hams are needed.

* Location: Life Time Athletic of Raleigh, 8515 Falls of Neuse Rd., Raleigh, NC 27815

* Ham Coordinator: John Stone (K3RHJ)

* Website: [Five-O Memorial Ride](#)

2017 Bike MS: Historic New Bern Ride

September 9-10, 2017 - Saturday and Sunday - New Bern, NC

The event features 30, 50, 75 and 100 mile rides each day, requiring SAGS, staff Shadows and Rest Stop Hams. The event benefits the National Multiple Sclerosis (MS) Society and typically draws about 2000 riders.

* Location: Union Point Park, 210 E Front St, New Bern, NC 28560

* Ham Coordinator: Brian Young (KA9QJT) for Triangle-area Hams, collaborating w/Bruce (N8UTY) of New Bern

* Website: main.nationalmssociety.org/site/TR/Bike/NCTBikeEvents?pg=entry&fr_id=28911

* Facebook (Optional): www.facebook.com/groups/469165586760508

* Additional Info: You are not required to register as a volunteer on the Bike MS website. Do consider making hotel arrangements now. Availability is always limited. When signing up on this website, please also include your t-shirt size.

2017 Tour d'Orange

September 16, 2017 - Saturday - Hillsborough, NC

This event features Century and shorter rides that benefit the National Foundation for Transplants and the MS Society. SAGS and Rest Stop Hams are needed.

* Location: Cane Creek Baptist Church, Hillsborough, NC 27278

* Ham Coordinator: John Stone (K3RHJ)

* Website: [Tour d'Orange](#)

2017 Cycle for Life

September 30, 2017 - Saturday - Research Triangle Park, NC

This bicycle event features 32 and 65 mile routes that benefit the Cystic

Current Public Service Opportunities continued

Fibrosis Foundation. SAGS and Rest Stop Hams are needed.

* Location: The Frontier, 800 Park Offices Dr, Research Triangle Park, NC
27709

* Ham Coordinator: Wallace Smith (KJ4UKV)

* Website: [Raleigh Cycle For Life](#)

RARS Classifieds

Copied from www.rars.org/classifieds.php

The items below were listed within the last 30 days on the RARS website.

Kenwood SP-23 Matching Speaker for TS570/590 Radios

Posted July 22nd, 2017 by: K4HF

Contact: k4hf@arrl.net

Speaker is in excellent condition \$50

Contact me by e mail, preferred, or (919) 872-6555 Thanks, Chuck

MFJ 864 HF/VHF/UHF 300 Watt SWR - Power Meter

Posted July 18th, 2017 by: K4HF

Contact: k4hf@arrl.net

The Meter has cross needles, 30 and 300 Watt scales and comes with instructions. Excellent condition, \$30. Contact me by e mail, preferred, or (919) 872-6555. Thanks, Chuck

LDG M-7600 External meter for ICOM IC-7600, \$50.00

Posted July 17th, 2017 by: N4TL

Contact: n4tl2@yahoo.com

I don't have room for this meter anymore. It works fine and includes the manual, power cable and interface cable.

RARS Classifieds Continued

This is from the LDG website.

The LDG M-7600 provides a lavish 4 inch meter for the IC-7600. It will display S-meter on receive, or power out, SWR, ALC level or supply voltages, all selectable from the rig's setup menu. What's more, the M-7600 and the virtual meter on your radio can work together; for example, you can display SWR on the radio's meter and power output on the M-7600. The meter face is backlit in cool LED blue, powered by any 12 volt, 250ma source; there's a brightness control on the case back. The meter itself is passive; it doesn't require the 12 volt supply. You don't have to power the backlight, but you'll be missing out on a great feature if you don't. Calibration adjustments are accessible from the back of the M-7600; you don't have to take the meter apart if you ever need to cal. The M-7600 comes fully assembled and calibrated; both the radio and power cables are included, of course, so you're ready to go right out of the box.

Asheville Radio Museum Announces Surplus Equipment Sale

Are you looking for a restoration project? How about a matching speaker for your rig? We may have it. The museum is out of space and selling more than sixty vintage home and ham radios and accessories. No reasonable offers refused! For a complete list, see our web site (www.avlradiumuseum.org/surplus).

For our vintage farm and home radios, come to the Antique Wireless Association Swap Meet in Valdese, NC (7 AM – noon) on Saturday, August 19. For meet details, see <http://www.cc-awa.org/Summer.html> .

For amateur radio gear, come to Asheville on Saturday, September 16 (9 AM – 1 PM). The sale is at the museum's storage unit at [127 Sweeten Creek Road](#) (also called US 25A Alt). Take exit 51 from I-40 and go about ¼ mile north (the Extra Storage facility will be on your right).

All items are sold as-is and are untested, unless noted otherwise. Bid accordingly! For inquiries, please use the contact form at the bottom of the home page on the museum [web site](#) .

This announcement was received from Stuart Smolkin <stuart.smolkin@gmail.com>

200 Meters & Down the story of Amateur Radio

written by Clinton B. DeSoto ISBN: 978-0-87259-001-4

Published by the American Radio Relay League.

Reviewed by: Carl Davis, W8WZ

I was recently looking around on Amazon.com to find a book to read during an upcoming flight. Because I read many history books and many books about Amateur Radio (if it can be said that there *are many* books about our hobby to read) Amazon suggested that I read 200 Meters and Down the Story of Amateur Radio. That sounded good so I ordered the book. When it arrived I tucked it into the pocket of my briefcase where it sat until I was jammed into the center seat of a 737 bound for Newark where I would face a 6 hour layover then board a different flight to Detroit. As I took the book out of the briefcase I wished it was thicker than its 184 pages given my travel itinerary.

The first thing I noticed was that the grammar was very formal and the writing style seemed rather archaic. I looked at the publishing date and learned that the book was written in 1936. So this was a history of ham radio from the perspective of a ham operator in 1936 when ham radio was less than 40 years old! No wonder the author only needed 184 pages to tell all.

The author starts the book by giving an overview of ham radio in 1936 which I found very interesting. He said the average ham was a 25 year old unmarried man. He held a class B operator license and a station license and that were both valid for a term of 3 years. He used radio telegraphy exclusively but hoped to someday get a phone station on the air. He had built his transmitter and receiver himself from commercially produced parts. His transmitter was crystal controlled using a pair of type 10 tubes with 100 watts of input power. He used a three tube regenerative receiver with one RF stage and one AF stage. His antenna system was a 130-foot wire with a two-wire transmission line of about 60 feet. He was a high school graduate and worked for a living in a technical trade. He had spent a total of \$300 on his hobby and his current station was valued at \$100. According to savings.org \$100 in 1936 would be the equivalent of \$1,749.51 in 2017. I am not sure what the average ham radio station is valued at today, but my guess is it is pretty close to that value.

As far as operating activity in 1936 goes, the author says; “the great preponderance of amateur work is the handling of traffic.” 75% of activity is CW except on the 56Mc band which is used for local communication and is the only band where phone dominates over CW. Some experimenters are starting to work on 110Mc and their experimentation

is promising but the average ham is not operating that high yet. There is also only experimental activity on 28Mc in 1936 with operators describing the band as “erratic.” The most commonly used long distance bands are 7Mc in the evening and 14Mc in the daytime. 3.5Mc is also popular but does not offer as much DX as the higher bands. It sort of sounds like the solar cycle in 1936 was the same as it is now.

While message handling was the most popular amateur activity, rag chewing came in second place followed by technical experimenting. Between 1923 and 1936 more than 100 expeditions had used Amateur Radio for their means of communication. Donald MacMillan was the first explorer to make use of this option in his exploration of the Arctic when he took ham operator Don Mix with him. That expedition used the call sign WNP for “Wireless North Pole.”

The cutting-edge state of the art operators in 1936 were experimenting with television. While they predicted that TV will “be here any day now” the author was more skeptical and saw TV as a waste of bandwidth. He also viewed phone operation as a waste of bandwidth and said that it served no practical purpose other than use as “propaganda” to impress the public with the sound of voices from loudspeakers.

The hobby began to appear in an organized form in the early 1900’s with magazines publishing 150 articles on wireless telegraphy and 18 articles on wireless telephony during the years from 1904 to 1909. The invention of the Fleming valve (a diode) in 1904 began this excitement. The author spends several chapters detailing the development of detector technology and describes the various lawsuits that ensued as inventors and innovators fought each other in court for the ability to profit from their designs. The author opines that the greatest technological advancement at this time was the innovation of the crystal detector. Not necessarily because of the quality of a crystal detector as compared to other detectors of the era but because it introduced the concept of crystal usage in radio circuits thereby opening the door to the use of crystal control in transmitter circuits where crystal use was truly revolutionary because for the first time an average operator could have precise control of his operating frequency. This greatly reduced QRM and improved the efficiency of traffic nets by enabling operators to know, for the first time, exactly what frequency they were using.

The author believes the greatest age of amateur radio was during the period from January 1912 to December 1913. This was, according to him, the time of the greatest innovation and technological advancement in the history of radio. In 1912 there were 1,185 licensed hams in the United States and in 1913 there were 2,000. However, the author says that there were many more hams on the air at that time as only a few of the hams felt the need to get a federal license to practice their hobby. The majority of them

were still “free spirited and part of the careless heritage of the freebooting days.” By 1914 the number of hams with licenses had grown to 4,000 not due to an influx of new operators, but due to the licensing of previously unlicensed amateurs. In 1913 the Toronto Canada Amateur Radio club boasted 150 members. The author believes that this year was the greatest time in radio history because it was during this time that radio operators first discovered that vacuum tubes could oscillate, which was of course, a world changing, revolutionizing discovery. Although it would be several years before the average ham was actually taking advantage of that principle in his station. The ARRL was formed in January of 1914 at the climax of this great year of radio.

Unfortunately, 1914 was the year that the Great War began in Europe, seriously interrupting the advancement of radio technology. Hiram Piercy Maxim wrote to the Secretary of War in 1915 offering him the service of the League’s membership in relaying communications across the United States. To show that amateurs could efficiently offer the War Department reliable transcontinental communications the ARRL conducted a test relay on George Washington’s Birthday in 1915. The message was originated by Colonel Nicholson of Rock Island, Illinois. The message read “A democracy requires that a people who govern and educate themselves should be so armed and disciplined that they can protect themselves – Colonel Nicholson.” That radiogram was delivered via ham radio from Illinois to 36 states and the District of Columbia. The Pacific coast got the message 55 minutes after it had been first sent. The Atlantic coast got the message in 60 minutes and it arrived in New Orleans and Canada in only 20 minutes. The call sign of the Illinois station that originated the message was 9XE. This activity caused the Federal Bureau of Navigation to take seriously for the first time the ability of radio amateurs to contribute to the national welfare and they began issuing special licenses allowing amateurs to operate on 475 meters to help pass the traffic that the for-profit and government stations did not have the ability to handle. By March 1916 the ARRL had developed a trunk line system that ensured ARRL members could relay messages via radio anywhere in the United States. In 1917 the network could relay a message from the Atlantic to Pacific coast and return a reply back to the Atlantic coast in one hour and twenty minutes. This network was, however, shut down when the US entered into World War One and all amateur radio operations were ordered to cease for the duration. Many radio amateurs served as radio operators during the First World War. Chapter 8 lists the names and accomplishments of many of those amateurs who served in the War to End All Wars.

Chapter 9 describes the post-war efforts of the ARRL to allow amateur radio to resume after the armistice and chapter 10 describes the shift from spark operation to CW.

As soon as the ban on amateur radio ended the ARRL began to rebuild its trunk network and completed its first post-war transcontinental relay in January of 1921 in only six minutes and thirty seconds. The use of CW instead of spark is the main reason the 1921 message was relayed so much faster than the 1917 message. 1AW was the sender of that first post-war transcendental radiogram. His message was to 6JD in California. It read “How does California regard prohibition?” The answer “To Mr. Maxim: California is supposed to be dry but it is very wet here now. It has been raining all day.”

Chapter 11 describes the innovation of radio broadcasting and its relationship with the Amateur service. Chapters 12 through 19 describe the evolution of radio regulations in the United States as well as listing the call signs of many active stations during the 1920's. Chapter 19 details the many expeditions that used amateur radio to provide them with communications to the rest of the world during their remote travels. It describes in detail a 1923 adventure had by Captain Donald MacMillan. Chapter 20 describes the role of amateur radio in emergencies especially highlighting times when snow in the mid-west destroyed traditional land line telegraph service and amateurs stepped in by using wireless to fill the gap until the lines could be repaired.

The final chapter of the book is entitled “Whither Amateur Radio?” and the author uses these pages to offer his advice and opinion about the future of ham radio. Sadly, he laments, the great days of unbridled enthusiasm, invention and innovation are in the past. By 1936 ham radio was no longer cutting edge and state of the art as it had been in the great year of 1913. Many of the original hams are so turned off by the new regulations and licensing requirements that they are no longer active. Others have become bored with the hobby as it is no longer new and have moved on to other more high-tech pursuits. While the author misses their pioneering spirit, the biggest problem facing ham radio in 1936 is that it is becoming too popular with newcomers into the hobby and the limited bands are getting too crowded. While crystal control helps, ops who want to run phone and soon maybe even TV are eating up all the space. The author proposes making it harder to get a ham radio license. He suggests raising the code speed requirement and also making the technical testing standards more stringent. The author sees this as a natural evolution of the amateur service where quality standards should continue to rise. He says that in 1936 “it is already many times more difficult to secure an amateur operator's license than it was ten years ago.” He predicts that as commercial and government owned radio operations improve there will be less demand for radio amateurs to transmit messages on behalf of non-hams and governments leading to a decline in traffic handling. For instance, in 1936 police departments in several cities made it a practice to find a ham radio operator whenever a car was reported stolen. The ham would then transmit a description of the stolen car to all other hams in the area. Those hams would then go out

and find the car and report its location to the police via ham radio. The police would then go and recover the stolen car and arrest the car thief. This was a very common use of ham radio that the author thought would go away as police departments developed their own two-way radiotelephone systems. The author predicted that amateur radio would become more of a social institution comprised of hobbyists who operate for pleasure rather than experimenters exploring new technologies or civic minded citizens assisting their communities by passing messages that would have otherwise went unsent. The author concludes his book by imploring its readers to abandon the wasteful vanity of telephone and the fool's errand of television and return to a simple "good clean-cut code signal."

The book concludes with these words "May it fall to amateur radio to march many steps toward the goal of complete knowledge ere its footprints are lost in the sands of time."

It seems that even in 1936 many hams believed our best days were behind us and that the end of our hobby was near. It is too bad that the fellows today who think our best days were in the 1950's or 1960's never got to know how good it really was back in 1913!

I remember this when I hear people predict the end of amateur radio now or say that all of our best days are behind us. I am more optimistic about the future of ham radio today than Mr. DeSoto was in 1936. That said, 200 Meters and Down made my flight much more enjoyable and I can honestly recommend it to anyone interested in the history of our great hobby.

73 Carl Davis, W8WZ



Amateur Radio historian Clinton B. DeSoto, W9KL